BEFORE THE INDEPENDENT COMMISSIONERS

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of the Proposed Canterbury Land and Water Plan

REBUTTAL EVIDENCE OF PHILLIP HARRY PERCY ON BEHALF OF NORTH CANTERBURY, NELSON/MARLBOROUGH AND CENTRAL SOUTH ISLAND FISH AND GAME COUNCILS

13 FEBRUARY 2013

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QUALIFICATIONS AND EXPERIENCE

1. My name is Phillip Harry Percy. My qualifications and evidence were set out in my Evidence in Chief, dated 4 February 2013.

2. In preparing this rebuttal evidence I have reviewed:

   a. The reports and statements of evidence of other experts giving evidence relevant to my area of expertise, including:

      i. Gerard Willis for Fonterra;

      ii. Philip Mitchell for Genesis; and

      iii. Shirley Hayward for Fonterra.

   b. I have also reviewed the statements of rebuttal evidence of Fish and Game witnesses including:

      i. Associate Professor Russell Death;

      ii. Dr Roger Young; and

      iii. Neil Deans.

3. I have again prepared this evidence in compliance with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2011.

4. The particular points that I consider it useful for me to rebut are set our below.

EVIDENCE OF GERARD WILLIS

5. I have read the Evidence in Chief of Gerard Willis who has provided planning evidence for Fonterra. Mr Willis' evidence deals with some core principles and issues relevant to the proposed Canterbury Land and Water Regional Plan ("pCLWRP") that I consider require a response. In particular, Mr Willis addresses the National Policy

Statement for Freshwater Management ("NPSFW") and provides several recommendations on its interpretation and application in the pCLWRP that I do not agree with. There are some other planning matters that I also address in this rebuttal evidence.

Relationship of pCLWRP with the Regional Policy Statement 2012

6. Mr Willis states in paragraphs 3.1 and 3.4 that the pCLWRP is to give effect to the Operative Regional Policy Statement 1998 and is to have regard to the Regional Policy Statement ("RPS") 2012.

7. Section 67(3) of the RMA requires that a regional plan must give effect to a regional policy statement. Given that the pCLWRP has not yet been made operative and the RPS 2012 is now operative, it is my understanding that the pCLWRP must give effect to the new RPS. I am not aware of any provisions in the Resource Management Act 1991 ("RMA") that specify that the plan must give effect only to an RPS that is operative at the time the plan is notified. Section 67(3) is a simple statement of obligation that applies to regional plans regardless of their development status. Where there are changes that need to be made to the pCLWRP that are beyond the scope of submissions, that should be dealt with through a variation. However where the pCLWRP can be amended to give effect to the new RPS, then it is my understanding that those changes should be made.

National Policy Statement for Freshwater Management

Overall quality of fresh water within a region

8. Mr Willis, in his analysis of Objective A2 of the NPSFW[1] has, in my view, applied a wider interpretation to the concept of 'overall quality of fresh water within a region' than is the intention of the NPSFW. Mr Willis suggests that the term 'overall' means that not all water needs to be maintained or improved in a region or a particular water body. I agree with that proposition but not in the same way as I understand Mr Willis is proposing.

[1] Paragraph 3.9 onwards

9. At para 3.12 Mr Willis says '*In my opinion, that does mean that the improvement of a degraded river might offset a reduction in the quality on another river (or, more likely, a particular reach of river)'*. He also suggests that overall quality may not just be a spatial relationship between water bodies, but it might also be linked to flow and/or volume in a single river system. At para 3.13 he says '*For example, the overall quality of freshwater may be improved if the quality in the mainstem of a river is improved even though the quality of a particular tributary deteriorates. That is simply a function of there being a great deal more freshwater flowing in the mainstem than in the particular tributary. In such a case, more water is improved than deteriorates meaning that, in volumetric terms, overall water quality has improved*'. I will discuss this latter point later in my evidence.

10. I am of the view that the phrase 'overall quality of fresh water within a region' is there because it reflects the manner in which the management mechanisms of the NPSFW work. More specifically, it is an acknowledgement that some water bodies will be 'under allocated' – the limits specified for those water bodies will not yet have been reached – in which case there is an acceptance that there will be some additional water quality use *up to the limits*. But the limits are set at a point where the water quality necessary to achieve Objective A1 of the NPSFW (and the other fundamental outcomes set out in s5(2) (a) to (c) and s6), along with other community values, is maintained. In other water bodies in the region where over-allocation exists, there must be an improvement in that water quality back to the point where the limits are met (and Objective A1 is achieved).

11. I agree with Mr Willis to the extent that the phraseology of Objective A2 suggests that there will be some increased resource use in some circumstances, otherwise why would the objective specifically require protection of outstanding water bodies and protection of significant values of wetlands in the act of simply maintaining or improving overall quality? The Objective suggests that 'overall quality' includes some impact on water quality in some places, but in my opinion that is only provided for in water bodies where the sustainable resource use limit

has not yet been reached. In water bodies where that sustainable resource use limit has been reached or exceeded, there is no opportunity for further water quality degradation. In the case of over-allocated water bodies, the baseline requirements of Objective A1 are unlikely to be achieved, and/or the other values associated with sustainable water quality limit will be degraded. In those situations the NPSFW says that those water bodies must be improved to meet the limits over time. The net result is that the overall quality of fresh water in the region will be maintained or improved to the extent that the values of each water body are provided for.

12. In my view, the NPSFW is trying to establish the fundamental concept of defining, for each water body, the sustainable resource limit. This is to implement the purpose of the RMA. Mr Willis' interpretation, in my view, does not sit comfortably with this broad approach.

Overall water quality based on off-setting of water quality parameters

13. At paragraph 3.14 of his evidence, Mr Willis states '*But equally the "overall quality of freshwater" is determined by the presence of a range of contaminants and in-stream conditions. In that sense I consider it possible, in the overall judgement to be made, for a plan to give effect to this objective by allowing one contaminant to increase (say Dissolved Inorganic Nitrogen – DIN) while achieving an overall improvement in water quality by securing a decrease in (for example) microbial pollution (e.g. E.coli) and sediment.*'

14. Accepting that Mr Willis has used this as an example only, it serves to demonstrate the complexity and potential risks with taking the approach to 'overall' water quality suggested. There are two potential issues with that approach.

15. The first is that, in the example Mr Willis uses (DIN and E.coli), both of those contaminants will influence the contact recreation value. E.coli counts will influence whether people get sick when ingesting the

water. Nitrogen is a significant influencer of periphyton growth which, if excessive, can cause unpleasant swimming environments (reduced amenity). A river where the water is safe to drink may still not provide for contact recreation values because it is physically unpleasant to be in. This highlights the point made in Associate Professor Death's rebuttal evidence[2] that in many cases, water quality parameters do not operate independently of each other and single parameters (such as Nitrogen) can play an influential role in a range of in-stream processes and therefore the provision for different values.

16. The second issue with Mr Willis' approach is that there are often several values associated with any one waterbody and, in all cases, there is a requirement to safeguard life supporting capacity, ecosystem process and indigenous species that is ever-present (Objective A1 NPS and Part 2 RMA). In Mr Willis' example, allowing increased levels of DIN while reducing E. coli might provide for contact recreation values but it probably will not provide for the other values of the water body in question. As noted in paragraph 15 above, the rebuttal evidence of Associate Professor Death addresses this matter in more detail.

17. I therefore do not agree with Mr Willis that overall water quality can be determined based on a balancing of contaminants unless it is done on the basis that the bottom line limits that provide for the values of the water body are still achieved. As Associate Professor Death and Dr Young explain in their rebuttal evidence, all of the parameters included in Fish & Game's recommended Table 1a are relevant and applicable to determining whether the Objective A1 'baseline' values are provided for and whether other community-derived values are provided for.

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[2] Paragraphs 10 to 16

Opportunity cost of setting limits

18. Mr Willis states at paragraph 3.25 '*The opportunity cost of setting limits higher than they need be to meet freshwater objectives is significant when the result is foregone dairy conversion…*'

19. Mr Willis has correctly identified a potential economic impact that may arise from setting limits too high but he has not discussed other key aspects of limit-setting. The first is that the RMA is suggestive of a precautionary approach to be taken (s5 and s32 (4)(b)). A precautionary approach to limit setting suggests to me that where there is a degree of uncertainty as to what the limits should be, and the consequences of setting them too low are significant, they should be set at a level where there is a high degree of confidence that the fundamental outcomes they are to provide for will be achieved. The second aspect of this matter is that there is a converse environmental, social and potentially economic cost associated with setting limits too low. Setting limits must account for a potential opportunity cost to future generations of 'getting it wrong'.

20. In my view, defining a resource use maximum that provides both for future generations as well as providing for current generations would give effect to the sustainable management purpose in section 5 of the RMA. It would be planning folly to adjust limits in favour of current generations where there is not enough scientific information to say for certain that those limits are the right ones. I prefer an approach where the limits are set, within reason, at a precautionary level now so as to leave scope for refinement as the scientific knowledge develops.

21. While I agree that limits should be set for water bodies in a way that acknowledges demand for those resources, a line has to be drawn to define what 'foregone opportunities' should reasonably be considered in that limit-setting exercise. Opportunity costs of not providing for dairy conversions in order to meet the baseline requirements of safe-guarding life supporting capacity, ecosystems and indigenous biodiversity should not be a factor, as the RMA is clear that those core values are to be provided for. The only foregone opportunities that should be considered are those that would be caused by the provision

of other community values – a community may need to balance the economic costs of reserving some of the freshwater resource for contact recreation values instead of making it available for dairy conversions. So while I agree with Mr Willis that opportunity costs are a consideration, I do not consider that they are as extensive as Mr Willis implies in his evidence.

22. It is also my view that the NPSFW does not intend for limits established in regional plans now to be locked in place for perpetuity. The NPSFW is subservient to the plan-making processes in the RMA and is simply a tool focused on assisting councils with preparing their plans on freshwater management. Plans must be reviewed every 10 years. The Council is obliged to monitor the effectiveness of its plan, and also monitor and keep records on the environmental response to its plans. The Council is also able to change its plan within the 10 year plan review timeframe. Those obligations and abilities suggest that there is an understanding the information and knowledge will improve to allow resource management to be refined over time. That sits comfortably with the precautionary principle in that it allows a precautionary approach to be refined as the uncertainties that led to that approach are addressed. The costs that result from that refinement over time (or at least from the coarseness of the initial precautionary approach) should be accepted, provided they are minimised as much as possible and are justified by the risk of not being precautionary in setting those limits.

Relationship between limits and discharges from individual activities

23. At paragraph 3.26, Mr Willis states '*The point made here is particularly relevant to nutrient management because there is often not a direct relationship between nutrient limits set and an in stream outcome that will be achieved. Many factors will come into play in determining whether the desired outcome will be achieved. Hence great care is required in setting limits for nutrients that are consistent with the NPSFM's definition, and which do not unnecessarily result in water bodies becoming "over-allocated" under the NPSFM without achieving a positive environmental outcome, in the broadest sense*.'

24. I agree with Mr Willis to the extent that many factors will come into play in determining the relationship between in stream outcomes and nutrient limits set for a particular activity. However those factors are at least recognised and can be accounted for using the best available information in models. The exact environmental response in a river associated with a specific discharge of a contaminant onto a piece of land is not able to be accurately defined given current scientific knowledge. But there is strong evidence that there is a cause and effect relationship between land use activities and contaminant concentrations in Canterbury's water bodies[3]. That relationship can be modelled at a relatively coarse scale to a level by which individual contaminant discharge limits or standards for individual activities can be defined in the Plan. That relationship currently manifests itself in the linkages between the receiving water quality standards set out in Schedule 5 and the limits in Table 1.

Tempering environmental 'ambitiousness' with economic effects

25. Mr Willis states at paragraph 3.32 '*Based on that (and on my understanding of Section 5 of the RMA and its primacy over any NPS), I understand that freshwater objectives should be set having regard to the need to use water for economic and social well-being. That is, the level of environmental "ambitiousness" needs to be informed by the knowledge of what the economic effects will be.'*

26. While I largely agree with this statement insofar as environmental outcomes need to acknowledge the use people wish to put fresh water to, there are some fundamental bottom lines that must be provided for in all situations. Those are set out in Objective A1 of the NPSFW and also in s5 (2) of the RMA. Beyond those baseline requirements, the freshwater objectives should represent the outcomes the community desires for different water bodies. It is that latter part of the environmental outcomes to which the level of "ambitiousness" should

[3] As set out in the s32 Report and the NRRP background material

be weighed and considered. My understanding of the RMA and the NPSFW is that economic effects do not influence the need to provide for the fundamental bottom lines.

Community input into Table 1

27. Mr Willis states at paragraph 7.2 that '*My understanding based on the evidence of Ms Hayward is that that has not been the case with the outcomes of Table 1 (albeit high-level, region-wide values were identified and acknowledged through the development of the CWMS).*'

28. I do not agree with Mr Willis's proposition that the outcomes in Table 1 do not reflect community values and outcomes. Table 1 and the outcomes within it are derived from Table WQL5 in the NRRP. The NRRP has been through a comprehensive public consultation process, with extensive technical and submitter input. The current Schedule 1 process still provides ample opportunity for community involvement and I am of the view that the Table 1 outcomes have been established through a robust public process.

Application of Table 1 to resource consents

29. At paragraph 7.30 Mr Willis poses a number of questions around how the outcomes in Table 1 might be applied in individual cases or in relation to individual consents.

30. Mr Willis raises valid issues with using the Table 1 values in the context of individual activities or resource consents. Table 1 describes the measured state of a water body. The exact point of measurement or method of measurement is a technical matter for the Council's environmental science team to determine based on best practice, but should be at a point that represents the state of the water body in question. Further discussion on this point is included in the evidence of Dr Roger Young at paragraph 18 of his rebuttal evidence. In my

view, evaluating discharges from a particular activity directly[4] against Table 1 should not occur because, as Mr Willis points out, there is no margin of error or room for occasional non-compliances with the numbers in Table 1. There is also no accounting for mixing zones.

31. The Plan should provide for consent monitoring through specific conditions or reference to Schedule 5 Water Quality Standards in the Plan. Those two mechanisms should have a relationship to Table 1, but the measurement of compliance should be done on the conditions/standards rather than Table 1.

Achievability of freshwater objectives

32. Mr Willis discusses the achievability of objectives in his evidence, suggesting that objectives need to be achievable rather than 'aspirational[5]'.

33. In my view, the achievability of objectives and limits only becomes a concern where setting objectives and limits will result in an over-allocation status for a particular water body. Achievability then becomes an issue because resource claw-back will be required to address the over-allocation status. In such situations, there may be a significant existing use of the resource and therefore the community of interest may need to accept the existing lower environmental state for a period of time. The degree of claw-back that is appropriate will be dictated by two things:

    a. The degree of improvement necessary to provide for the essential baseline requirements (safeguard life supporting capacity, etc); and

    b. What other values the community wishes to see provided for in that catchment.

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[4] Table 1 will still be a consideration in making decisions on resource consents and will provide guidance in setting conditions, but it is not intended to be used by directly translating the limits within it into resource consents.

[5] See paragraph 3.34

34. It is that second set of values that may need to be compromised if the implications of achieving those values will be high economic impact on the community. The first set of values should not be compromised and therefore I do not consider that achievability is a consideration in setting objectives (and limits) as they relate to those values. Achievability only becomes a consideration when the other community values are considered.

35. I agree with Dr Young's rebuttal evidence[6] where he says that achievability can be managed by using appropriate timeframes for targets (rather than adjusting the actual objective or limit). As long as an objective can feasibly be met (which it should be assuming its achievement is influenced only by anthropogenic factors) then providing for a longer period of adjustment for existing activities to meet that objective will influence its achievability (in terms of minimising major short term economic costs and providing time for technical efficiencies to be introduced).

Accounting for natural variations in contaminants

36. At paragraph 7.11 Mr Willis discusses Ms Hayward's evidence in relation to the 'coarseness' of the management units used in Table 1 and that the coarseness does not reflect some localised natural variations in contaminant loads. In my evidence in chief I have acknowledged the coarse nature of the management units. To recognise that in some circumstances, sub-regional sections of the Plan may need to set limits at higher levels than are set in Table 1, I recommend an amendment to Policy 4.1(d) as I included in my evidence. The policy as originally drafted specified that the sub-regional limits could not be lower than those set out in Table 1, however that strict policy wording does not provide for natural influences to be accounted for. Therefore, I recommend the following amendment to Policy 4.1(d):

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[6] Paragraph 16

> *"Where fresh water limits are set in section s 6 – 15 as well as in Table 1 for a water body, the water body shall be managed to meet the more stringent of the two limits, unless naturally occurring conditions justify the application of the less stringent limit."*

EVIDENCE OF PHILIP MITCHELL

37. Mr Mitchell makes a number of recommendations in relation to issues relating to existing hydro-generation dams and structures.

38. To address an issue that Mr Mitchell has identified with providing for fish passage past existing dams where currently fish passage is not provided, he recommends a change to Table 1 to exclude the Waitaki River from having to meet fish passage requirements[7].

39. In my view, the recommended amendment to Table 1a has the effect of removing the requirements to provide for fish passage and to avoid flat-lining the river from all activities in the Waitaki River, not just existing hydro dams.

40. Any existing situation where fish passage is not provided and it is unreasonable to remedy should be specifically identified rather than making a blanket change to provisions. The Fish and Game proposition is that references to flat lining and fish passage be moved from Table 1 into a specific policy 4.1A (see my evidence in chief). Any specific exclusion for existing situations could be included in those plan provisions, however there should be consideration given to whether, as consents for existing dams are renewed, there should be re-consideration of the appropriateness of the prevention of fish passage.

[7] See Section 8 of Mr Mitchell's evidence

Setting limits that provide for existing hydroelectricity generation

41. Mr Mitchell proposes that Policy 4.4 should be amended to provide for limits to be set for each catchment, and that they are to provide for values including consumptive and hydroelectricity generation values[8].

42. I agree in part with the recommended approach except that the NPSFW prescribes several bottom lines in Objective A1 and A2 that must be provided for in setting limits. The NPSFW preamble lists a range of natural and consumptive values but does not require that limits must be set to provide for consumptive (or hydro-electricity generation) over the fundamental baseline requirements. The Pre-amble says that limits should 'reflect' the values. In my view that means that where there is a demand for a resource for consumptive or other use, it is appropriate to set limits that provide for those uses. If there are no demands in a particular catchment for those uses, then the limits need not be set at a lower level. But the bottom line is that the requirements to safe-guard life supporting capacity, ecosystem processes and indigenous species, as well as protecting outstanding freshwater bodies, protecting significant values of wetlands, and improving fresh water where it has been over-allocated must be provided for in those limits. Once those bottom lines are provided for, then consumptive uses can be 'allocated' a portion of the remaining resource as part of considering and weighing up all community values. Mr Mitchell's recommended change to Policy 4.4 does not reflect the NPSFW approach and instead elevates hydro-electricity generation values to the same level as (or higher than) the bottom line values.

Removing requirement for efficiency improvements as part of consent renewals

43. Mr Mitchell suggests removal of the requirement to improve water use efficiency and reduce adverse effects on flows and levels in water bodies as part of consent renewal[9].

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8 See paragraph 5.14 of Mr Mitchell's evidence

9 See paragraph 5.8

44. The recommended removal of requirement for improvements in efficiency and reduction in adverse effects on flows and levels is contrary to Part 2 of the RMA and will not give effect to policies 7.3.4 (2) and 7.3.8 of the Regional Policy Statement. While the existing structures and their effects may be arguably part of the existing environment in terms of considering adverse effects, that should not incur a protection on the effects caused by the take and use of water from those structures. Where those structures and their associated uses are causing an adverse effect on the environment, the process of consent renewal is the appropriate mechanism for addressing those effects. It is an important mechanism in the RMA that resource consents require renewal as it allows for a reconsideration of the effects of an activity over time as a better understanding of those effects is developed and better knowledge of the environment that is being affected is developed.

45. While the NPSREG says that renewable energy generation infrastructure should be recognised and provided for, it does not trump the obligations to remedy adverse effects. Nor does it establish a carte blanche opportunity for existing infrastructure to continue to operate in the same manner as it has in the past. To do so would conflict with the NPSFW and also Part 2 of the Act.

Phillip Harry Percy

13 February 2013